

REMARKS/ARGUMENTS

The specification has been amended to remove the informalities indicated in the Office Action. The term “alpha” has been used rather than α to avoid confusion of the symbol with “ α ”. Claims 1 and 11 have been amended to include a limitation regarding forming fine scratches on the surface of the substrate. Support for this amendment is found at specification page 10, lines 1-7. Claims 2-10 have been amended for clarity. Claims 12-17 have been added. Support for the new claims is found at specification page 10, lines 21-24, page 11, lines 1-4, page 12, lines 27-34, page 12, line -5-8. No new matter has been added.

The present invention as set forth in amended Claim 1 relates to a method of producing an alumina film mainly in the alpha crystal structure (otherwise known as a quasi-alpha-alumina film)¹ on a substrate (including a substrate having a film previously formed thereon) by treating a surface of the substrate with a ceramic powder mainly having a crystal structure which is the same as that of alumina film to form fine scratches on the surface of the substrate, and thereafter forming the quasi-alpha-alumina film.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Hay (US Patent 4,968,426); Claims 1-3, 8 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Schaeffer (US Patent 6,123,997); and Claims 1 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Rostoker (US Patent 5,389,194).

To anticipate an invention, a prior art reference must disclose each and every feature of the claimed invention. However, none of these references disclose treating a surface of a substrate to form fine scratches thereon as required by Claim 1 of the present application. As discussed at specification page 10 herein, it is thought that Applicants’ treatment with a ceramic powder mainly having a crystal structure which is the same as that of the alumina to form fine scratches on the surface of the substrate provides unique scratches that reflect this

¹ See specification page 1, line 7.

alpha crystal structure, enabling the formation of the quasi-alpha-alumina film. Because none of the applied references anticipate the currently amended claims Applicants respectfully request the reconsideration and withdrawal of the 35 U.S.C. § 102 rejections.

Claims 1 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kang (US Patent 4,788,077).

This rejection is traversed for essentially the same reasons explained above: Kang does not disclose or suggest treating a surface of a substrate as claimed to form fine scratches thereon. As the Examiner notes, “ Kang does not specifically teach the application of alpha alumina particles”. Furthermore, Kang neither discloses nor suggests forming an quasi-alpha-alumina film on a substrate according to the present application.

The present application shows, in several Examples, the effect of the invention treatment with a ceramic powder mainly having a crystal structure which is the same as that of alumina in the alpha crystal structure. See Examples 1 and 2 at specification pages 12 and 14, (A) and (D), particularly noting the results presented in the several Figures and the specification regarding the lack of production of a quasi-alpha-alumina film in these cases.

The rejection over Kang should be reconsidered and withdrawn.

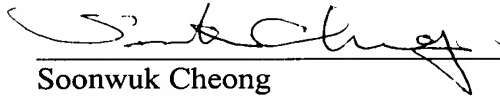
Schaeffer, Hecht, and Kikuchi similarly fail to disclose or suggest Applicants’ claimed surface treatment and subsequent formation of a quasi-alpha-alumina film.

Consequently, the present invention would **not** have been obvious to one of ordinary skill as the art does not teach or suggest what Applicants have accomplished herein. Therefore, the rejections presented in the Official Action should be reconsidered and withdrawn.

A Notice of Allowance is respectfully requested.

Respectfully submitted,

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